Solutions

2.1

- The authoritative server for the zone ✓.

2.2

- A blank line – two consecutive newlines (CRLF CRLF) ✓.

2.3

- 2xx success, 3xx redirect, 4xx client error, 5xx server error ✓.

3.1

- Root: referral to the `.com` TLD servers ✓.
- TLD: referral to example.com's authoritative servers ✓.
- Authoritative: the answer – `www.example.com`'s address ✓.
- The cache eliminates the root contact on the next lookup, for the TTL of the cached referral ✓.
- With the TLD cached but not the authoritative: the walk starts at the TLD – one contact fewer, same final answer ✓.

3.2

- Follow the redirect: request the URL in `Location` ✓.
- A 200 would have carried the resource body with its Content-Type and Content-Length ✓.
- Structure: status line; headers (Content-Type, Content-Length: 60); blank line; 60 body bytes – in that order ✓.
- The blank line is load-bearing because headers are length-prefixed by nothing else: the parser cannot know where they end without it ✓.